

[METHOD OF PROGRAMMING AND ERASING MULTI-LEVEL FLASH MEMORY]

Abstract of Disclosure

A programming method of the multi-level flash memory comprises shooting a programming voltage that is increasing upwards stepwise each time into the gate of the multi-level flash memory, and following, shooting a program verify voltage that is decreasing downwards to program a multi-level in the multi-level flash memory and shooting an additional programming voltage into the multi-level flash memory after the last program verify voltage is shot. An erasing method of the multi-level flash memory comprises shooting an erasing voltage that is decreasing downwards stepwise each time into a gate of the multi-level flash memory, and following, shooting a erase verify voltage that is increasing upwards to erase a multi-level in the multi-level flash memory and shooting an additional voltage into the multi-level flash memory after the last erase verify voltage is shot.

Figures